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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,863	02/03/2004	Charles L. Bruzzone	59472US002	3508
32692	7590	02/02/2006	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY			SEVER, ANDREW T	
PO BOX 33427			ART UNIT	
ST. PAUL, MN 55133-3427			PAPER NUMBER	
			2851	

DATE MAILED: 02/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/771,863	Applicant(s) BRUZZONE ET AL.	
	Examiner Andrew T. Sever	Art Unit 2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/10/2005 has been entered.

Specification

2. The incorporation of essential material in the specification by reference to an unpublished U.S. application, foreign application or patent, or to a publication is improper. Applicant is required to amend the disclosure to include the material incorporated by reference, if the material is relied upon to overcome any objection, rejection, or other requirement imposed by the Office. The amendment must be accompanied by a statement executed by the applicant, or a practitioner representing the applicant, stating that the material being inserted is the material previously incorporated by reference and that the amendment contains no new matter. 37 CFR 1.57(f).

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3. The attempt to incorporate subject matter into this application by reference to the Handbook of Pressure Sensitive Adhesive Technology is ineffective because it is a publication not a US patent document.

Applicant is using the reference to the Handbook of Pressure Sensitive Adhesive Technology to provide a special definition of "Pressure Sensitive Adhesive" that is different than the dictionary definition of each word. Accordingly the reference is being considered an attempt to incorporate essential material for an enabling disclosure by incorporation by reference to a non-US patent document, which is not permitted. See MPEP 608.01(p).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 18-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Katsumata et al. (US 6,829,090 as cited in previous office actions.)

Katsumata teaches an inherent method of making a polarizing beam splitter shown in figure 4 (the method of making the polarizing beam splitter is inherent since the polarizing beam splitter exists and therefore must have been made see MPEP 2112.02) the polarizing beam splitter made by this inherent method, comprises:

A multilayer reflective polarizing film (it is made of at least three layers 22, 25, 21 and 22);

A pressure sensitive adhesive (23 which is described as being a soft adhesive which in column 6 lines 21-27 is described as a pressure sensitive adhesive (in the non-UV form) disposed on the multilayer reflective polarizing film; and

A first rigid cover (the prism glass 54) disposed on the pressure sensitive adhesive.

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With regards to applicant's claim 19:

A second cover is provided.

With regards to applicant's claim 20 and 22:

The process of attaching the first cover would be laminating.

With regards to applicant's claim 21:

The adhesive is applied between both covers and the polarizing film.

With regards to applicant's claim 23:

Katsumata does not specifically teach of curing the adhesive during the assembly phase of constructing the prism (this does not preclude that they are cured after the entire prism is constructed.)

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-17 and 24-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kusano et al. (US 6,386,710 as cited in previous office actions) in view of Schrenk et al. (US 5,872,653) and Katsumata et al. (US 6,829,090 as cited in previous office actions.)

Kusano teaches in figure 2 a polarizing beam splitter comprising:

A polarizing film (1d);

And a first rigid cover (1a) disposed on the polarizing film.

Kusano does not teach that the polarizing film comprises of alternating layers of two materials, at least one of which is birefringent and oriented. Such a teaching is taught by Schrenk in column 2 lines 19-61 teaches a polarizing film made of birefringent (see discussion in column 1 lines 40-57) and oriented alternating layers. Schrenk teaches in column 1 lines 60-67 that such a polarization film has the advantage of being fabricated from readily available materials and results in a polarizer having a level of light absorption near zero. Since both these things are desirable attributes reducing cost and increasing performance respectively, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Schrenk's polarizing film in the polarizing beam splitter of Kusano (see column 1 lines 22-29 of Schrenk which teaches the polarizing film is used in beam splitters of the type of Kusano).

Kusano also does not teach that at least a pressure sensitive adhesive attaches the cover. Katsumata teaches in column 4 lines 1-14 that by using pressure sensitive adhesive (Soft type adhesive) it is possible to suppress internal stress and optical distortion which when present in prior art beam splitters would degrade the quality of the projected image. Accordingly it would have been obvious to one of ordinary skill in the art to use pressure sensitive adhesive as taught by Katsumata to attach at least one of the covers of Kusano since it is desirable to reduce optical distortion in a polarization beam splitter.

With regards to applicant's claim 2:

Kusano teaches a second cover (1b).

With regards to applicant's claim 3:

Katsumata in column 6 lines 21-27 also describes a UV adhesive, which would be a structural adhesive and both prism would obviously be adhered to the polarizing film in between or else the prism would fall apart.

With regards to applicant's claims 4 and 5:

Both covers are glass prisms (see column 5 lines 1-13 of Kusano).

With regards to applicant's claim 6:

The term photo initiator literally refers to a light beam of some type that initiates a reaction. Since once the beamsplitter is constructed it is assumed that the adhesive has already been reacted and therefore no initiator is required (for example a UV curable adhesive such as that specified by Katsumata would be initiated by UV light which is a photo initiator, once the bonds have been made however UV light is no longer needed.) (See also US 4,243,500 to Glennon, which teaches the structure and method of using a pressure sensitive adhesive in column 5 lines 25-50)

With regards to applicant's claim 7:

After the reaction takes place pressure sensitive adhesives are substantially free of unreacted monomers (either they did not have any monomers to start with, or the monomers have been reacted sufficiently to bind the parts of beam splitter together.) (See US 4,243,500 to Glennon, which teaches in column 5 lines 25-50 that the photo-initiator

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causes a radical emitting initiator substance to release a free radical that causes polymerization of the monomers to bond the monomers together in a polymer.)

With regards to applicant's claim 8:

Kusano teaches an adhesive (1c) disposed between the first multilayer reflective polarizing film and the second multilayer reflective polarizing film.

With regards to applicant's claim 9:

Katsumata in column 6 lines 21-27 also describes a UV adhesive which would be a structural adhesive and since prior art prisms used structural adhesive exclusively it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a mix of the UV adhesive (Structural) and the pressure sensitive adhesive. Katsumata teaches that the mix of Structural (UV) and pressure sensitive has desirable qualities in a polarization beam splitter.

With regards to applicant's claim 10:

One embodiment of Katsumata teaches only Structural adhesive.

With regards to applicant's claim 11:

As discussed above, absent evidence to the contrary the adhesive between the two films is a structural adhesive.

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With regards to applicant's claim 12:

Both covers are prisms.

With regards to applicant's claim 13:

Kusano teaches in column 5 lines 1-13 that the prisms are glass.

With regards to applicant's claims 14 and 15:

See the above discussion with regards to claims 6 and 7.

With regards to applicant's claim 16:

Kusano teaches in figure 1 that the prism is used in a projection system, which comprises a light source (3), and imaging core (everything after 2 and before 6). With regards to isotropic see Schrenk column 1 lines 40-49 which teaches that the polymers are isotropic and also see column 3 lines 9-16 which teaches isotropic materials must have some stress in order to be birefringent.

With regards to applicant's claim 17:

See above.

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With regards to applicant's claims 24-28:

See above wherein the method of making the polarizing beam splitter of Kusano in view of Schrenk in view of Katsumata is obvious, since the obvious beam splitter must be made.

With regards to applicant's claims 29-31:

The film of Schrenk is comprised of matched z-index polarizer films (see column 4 lines 28-37 and column 2 lines 3-19).

Response to Arguments

9. Applicant's arguments filed 11/10/2005 and 10/6/2005 have been fully considered but they are not persuasive.

With regards to the specification, applicant states that "pressure Sensitive Adhesive" is well known and therefore applicant was not incorporating subject matter relied upon to overcome a rejection. However as has been previously set forth applicant has failed to show that "Pressure Sensitive Adhesive" is well known in the art and is in fact relying on the incorporation of these documents to provide subject matter to overcome a rejection. The objection has been repeated.

With regards to applicant's arguments addressing the 35 USC §102 rejection based on Katsumata, the rejections have been modified to show the reasoning behind the rejection

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more clearly and applicant is directed to the appropriate part of the arguments in the final rejection mailed on 8/24/2005.

10. Applicant's arguments with respect to claims 1-17 and 24-31 have been considered but are moot in view of the new ground(s) of rejection.

As discussed in the final rejection of 8/24/2005, structural adhesive is met by the Katsumata reference. All other issues discussed by applicant are rendered moot in view of the new ground(s) of rejection.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Tani et al. (US 5,967,635) teaches in figures 1 a polarizing beam splitter that includes a multilayer reflective polarizing film and adhesive.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Sever whose telephone number is 571-272-2128. The examiner can normally be reached on 8:30-5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "W B Perkey".

AS

William Perkey
Primary Examiner